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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/662,392	09/14/2000	Raymond P. Mariella JR.	IL-10560	1299
7590	11/04/2002			
Eddie E Scott Patent Attorney Lawrence Livermore National Laboratory PO Box 808 L 703 Livermore, CA 94551			EXAMINER	CONLEY, SEAN E
			ART UNIT	PAPER NUMBER
			1744	/2
DATE MAILED: 11/04/2002				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/662,392	MARIELLA, RAYMOND P.
Examiner	Art Unit	
Sean E Conley	1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 18 July 2002.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-18 is/are rejected.
- 7) Claim(s) 16 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 14 September 2000 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Response to Amendment

1. The amendment filed July 18, 2002 has been received and considered for examination. Claims 1-18 are pending in the application.

Claim Objections

2. Claim 16 is objected to because of the following informalities: The claim recites the following; "said treatment system utilizes an electrostatic *precipitation*." The examiner believes this should read "said treatment system utilizes an electrostatic *precipitator*". Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily

published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Pearman (U.S. Pat 6,296,808 B1).

Pearman discloses a method and apparatus for protecting building personnel during a chemical and biological attack. The apparatus **20** decontaminates the environment inside a building in response to detection of an agent harmful to human life such as a chemical or biological agent. The apparatus comprises a sprinkler head **32** above a walkway such as a hallway through which personnel are expected to walk. The system utilizes a sensor **44** for detecting chemical or biological agents. This sensor is a chemical or biological detector (CBD) and it is coupled to a controller **40** which activates the sprinkler **32** in response to the detection of the chemical or biological agents (see figure 1, column 1, lines 60-63, column 2, line 55 to column 3, line 20).

It should be noted that the preamble of the claim is not given any patentable weight because it only recites the intended use of the apparatus.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 7, 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moscolo et al. (U.S. Pat. 5,078,046) in view of Pearman.

Mascolo et al. discloses an air treatment apparatus for cleaning the air in a forced air circulation system which are normally found in cars, houses or buildings (see column 1, lines 1-16). The system, which runs automatically, comprises various inputs such as a smoke presence detector and an odor presence detector. In response to the detection of the smoke or odors present in the air stream, the control system will become energized and a treatment liquid is supplied to the moving air stream in order to remove the detected chemicals. The treatment liquid can be chemicals for air cleaning such as fungicides or germicides, or the like (see column 2, lines 5-40 and column 6, lines 39-45). However, Moscolo et al. does not teach a system that detects and treats biological or chemical weapons.

Pearman discloses a method and apparatus for protecting building personnel during a chemical and biological attack. The apparatus **20** decontaminates in response to detection of an agent harmful to human life such as a chemical or biological agent.

The apparatus comprises a sprinkler head **32** above a walkway such as a hallway through which personnel are expected to walk. The system utilizes a sensor **44** for detecting chemical or biological agents. This sensor is a chemical or biological detector (CBD) and it is coupled to a controller **40**, which activates the sprinkler **32** in response to the detection of the chemical or biological agents (see figure 1, column 1, lines 60-63, column 2, line 55 to column 3, line 20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Moscolo et al. and replace the sensing means (smoke and odor detector) with the sensing means of Pearman (chemical and biological agent detector) for the purpose of detecting and treating chemical and biological agents that could present in the air steam inside a forced air circulation system.

8. Claims 2, 3, 5, 6, 8, 12, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moscolo et al. in view of Pearman as applied to claims 7, 9-11 and also over Pearman as applied to claim 1 above, and further in view of Groger et al. (U.S. Pat. 5,766,956).

Mascolo et al. discloses an air treatment apparatus for cleaning the air in a forced air circulation system which are normally found in cars, houses or buildings (see column 1, lines 1-16). The system, which runs automatically, comprises various inputs such as a smoke presence detector and an odor presence detector. In response to the detection of the smoke or odors present in the air stream, the control system will

become energized and a treatment liquid is supplied to the moving air stream in order to remove the detected chemicals. The treatment liquid can be chemicals for air cleaning such as fungicides or germicides, or the like (see column 2, lines 5-40 and column 6, lines 39-45). It would have been obvious to one of ordinary skill in the art to include the step of stopping the circulation of the air if the treatment system shuts down because treated air would no longer be circulating throughout the system. However, Moscolo et al. do not teach specifically using antibody based immunoassays or nucleic-acid based assays for the detection of pathogens.

Pearman also does not disclose or teach using antibody based immunoassays or nucleic-acid based assays for the detection of pathogens.

Groger et al. discloses in column 1, lines 8-62, that existing biosensors are based on antibody-antigen and nucleic acid-analyte methods. These biosensors are used to detect micro-organisms and toxins considered for use in biological warfare by terrorists.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the sensing means of the modified invention of Moscolo et al. as well as the sensing means in the invention of Pearman with biosensors based on antibody-antigen and nucleic acid-analyte methods taught by Groger et al. for the purpose of detecting and treating biological or chemical toxins present in the air contained inside a building.

9. Claim 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mascolo et al. in view of Pearman as applied to claim 11 and also over Pearman as applied to claim 1 above, and further in view of Anbar (U.S. Pat. 4,022,876 A).

Mascolo et al. and Pearman do not teach specifically using mass spectrometric-based assays for the detection of pathogens.

Anbar discloses that a mass spectrometric-based assay is used when determining the amount of bound antigen-antibodies which can be used to identify and detect the type of chemical agent and amount present in the air being treated.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the sensing means of the modified invention to Mascolo et al. as well as the sensing means of the invention of Pearman with mass spectrometric-based assays as taught by Anbar for the purpose of detecting and treating biological or chemical toxins present in the air contained inside a building.

10. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mascolo et al. in view of Pearman as applied to claim 11 and further in view of Condit et al. (U.S. Pat. 5,938,823).

Mascolo et al. and Pearman do not teach using an electrostatic precipitator to treat the air.

Condit et al. discloses an air cleansing apparatus which includes an electrostatic precipitator for treating the air. The electrostatic precipitator traps contaminates as the air passes through the device (see columns 1 and 2). Condit et al. does not teach a

means to detect and identify the contaminates in the air and is only focused on treating the air.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to further change the modified invention of Moscolo et al. and add an electrostatic precipitator in addition to the aerosol spray and filter treatment for the purpose of increasing the cleaning effect on the air by using an additional treatment means.

11. Claims 2-5 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moscolo et al. in view of Pearman as applied to claims 7, 9-11 and also over Pearman as applied to claim 1 above, and further in view of the publication "Autonomous System for Pathogen Detection and Identification" to Belgrader et al.

Moscolo et al. discloses an air treatment apparatus for cleaning the air in a forced air circulation system which are normally found in cars, houses or buildings (see column 1, lines 1-16). The system, which runs automatically, comprises various inputs such as a smoke presence detector and an odor presence detector. In response to the detection of the smoke or odors present in the air stream, the control system will become energized and a treatment liquid is supplied to the moving air stream in order to remove the detected chemicals (see column 2, lines 5-40 and column 6, lines 39-45). It would have been obvious to one of ordinary skill in the art to include the step of stopping the circulation of the air if the treatment system shuts down because treated air would no longer be circulating throughout the system. However, Moscolo et al. do not

teach specifically using antibody based immunoassays, nucleic-acid based assays, or mass spectrometric assays for the detection of pathogens.

Pearman also does not teach or disclose specifically using antibody based immunoassays, nucleic-acid based assays, or mass spectrometric assays for the detection of pathogens.

Belgrader et al. disclose an autonomous device for detecting, identifying, and quantifying biological warfare agents present in the air using assays. The device can use polymerase chain reaction (PCR) for nucleic acid based assays as well as mass spectrometric-based assays and antibody based assays for the means of detecting and identifying the pathogens present inside the air. However, the publication does not teach the step of treating the unwanted agents once they have been detected and identified.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Mascolo et al. and replace the sensing means (smoke and odor detectors) with the means of Belgrade et al. (assay detection and identification device) if one wanted to detect, identify and treat biological warfare agents and chemicals present in the air system inside a building occupied by people. Furthermore, it would have been obvious to modify the invention of Pearman and replace the sensing means (chemical and biological detector) with the means of Belgrade et al. (assay detection and identification device) if one wanted to detect, identify and treat biological warfare agents and chemicals present in the air.

Response to Arguments

12. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Conley, whose telephone number is (703) 305-2430. The examiner can normally be reached on Monday-Friday 7:30 AM - 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Robert Warden, can be reached at (703) 308-2920. The Unofficial fax phone number for this group is (703) 305-7719. The Official fax phone number for this Group is (703) 872-9310.

When filing a FAX in Technology Center 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communications with the PTO that are not for entry into the file of the application. This will expedite the processing of your papers.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [robert.warden@uspto.gov]. All Internet e-mail communications will be made of record in the application file. PTO employees will not communicate with applicant via internet e-mail where sensitive data will be exchanged or where there exists a possibility that sensitive data could be identified unless there is of record express waiver of the confidentiality requirements under 35 U.S.C. 122 by the applicant. See the Interim Internet Usage Policy published by the Patent and Trademark Office Official Gazette on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist, whose telephone number is (703) 308-0661.

SEC

October 21, 2002

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SUPERVISORY PATENT EXAMINER
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